

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method of charging fine-grained metal, metal compounds or a mixture of two or more metals or metal compounds, ~~in particular fine-grained directly reduced iron~~, into an electric-arc furnace, in which the metal, the metal compound or the mixture is supplied essentially continuously via at least one downpipe to one or more openings provided in the furnace roof, is introduced into the furnace through said at least one opening as a bulk material stream, and falls onto the melt merely by gravity, wherein before entering the furnace after the downpipe the bulk material stream is passed through a dosing orifice and enters the furnace essentially undisturbed.

2. (previously presented) The method as claimed in claim 1, wherein after the downpipe the bulk material stream is passed through a round or oval dosing orifice.

3. (previously presented) The method as claimed in claim 1, wherein after the downpipe the bulk material stream is passed through an iris.

4. (previously presented) The method as claimed in claim 1, wherein the dosing orifice is inclined by not more than 25° with respect to the horizontal.

5. (previously presented) The method as claimed in claim 1, wherein the dosing orifice is arranged horizontally.

6. (previously presented) The method as claimed in claim 1, wherein the mass flow of the bulk material stream in the downpipe is kept larger than the throughput through the dosing orifice.

7. (previously presented) The method as claimed in claim 1, wherein after the dosing orifice the bulk material stream is passed through a protective tube.

8. (previously presented) The method as claimed in claim 7, wherein the protective tube is cooled.

9. (currently amended) The method as claimed in claim 1, wherein the metal, metal compound or mixture of two or more metals or metal compounds introduced into the furnace has a mean grain size of less than 1 mm, ~~preferably less than 0.5 mm, particularly preferably less than 0.4 mm, and quite particularly preferably less than 0.3 mm.~~

10. (currently amended) An electric-arc furnace, ~~in particular~~ for charging with fine-grained directly reduced iron or ores by a method as claimed in[[,]] claim 1, comprising with a furnace roof having at least one opening, the at least one opening of the furnace roof being connected with a downpipe leading to the furnace lid from outside for supplying the material to be charged, wherein at the opening of the downpipe into the furnace a preferably round or oval dosing orifice is provided.

11. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the dosing orifice is an iris.

12. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the dosing orifice has at least two slides movable with respect to each other.

13. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the dosing orifice is inclined with respect to the horizontal by not more than 25°.

14. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the dosing orifice is arranged horizontally.

15. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the bulk recipient vessel constitutes a mass flow silo.

16. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the downpipe is arranged vertically.

17. (previously presented) The electric-arc furnace as claimed in claim 10, wherein below the dosing orifice a preferably vertical protective tube is provided.

18. (previously presented) The electric-arc furnace as claimed in claim 17, wherein the length of the protective tube is about 1 to 3 times the maximum diameter of the stream of bulk material.

19. (previously presented) The electric-arc furnace as claimed in claim 17 wherein the protective tube is cooled.

20. (previously presented) The electric-arc furnace as claimed in claim 17, wherein the diameter of the protective tube is at least twice as large as the opening diameter of the dosing orifice.

21. (previously presented) The electric-arc furnace as claimed in claim 10, wherein the maximum opening diameter of the dosing orifice is smaller than or equal to the diameter of the downpipe.